

Notice of Allowability

Application No.

10/716,473

Examiner

Hope A. Robinson

Applicant(s)

GUNJI ET AL.

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/30/06.
2. ☒ The allowed claim(s) is/are 1, 2 and 4-8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Hope A. Robinson
Primary Examiner
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EXAMINER'S AMENDMENT

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1652.

2. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization of this Examiner's amendment was given in a telephone interview with Ms. Shelly Guest Cermak on February 21, 2007.

4. The claims have been amended as follows:

Claim 1 (Currently Amended) A method for producing an L-amino acid comprising:

a) culturing a microorganism having the [an] ability to produce [an] said L-amino acid in a medium, whereby said L-amino acid accumulates in the medium, and

b) collecting said L-amino acid from the medium,

wherein said microorganism is a methanol-utilizing bacterium having the Entner-Doudoroff pathway and is modified so that 6-phosphogluconate dehydratase activity and/or 2-keto-3-deoxy-6-phosphogluconate aldolase activity are/is enhanced as compared to a wild-type bacterium, and

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said L-amino acid is selected from L-amino acids produced by a biosynthetic pathway which utilizes pyruvic acid as an intermediate, wherein said 6-phosphogluconate dehydratase activity is enhanced by

A) increasing the [a] copy number of a gene coding for 6-phosphogluconate dehydratase as compared to a wild-type bacterium, or

B) replacing the native promoter of said gene with a stronger promoter so that expression of the gene is enhanced in said bacterium as compared to a wild-type bacterium, and wherein said 2-keto-3-deoxy-6-phosphogluconate aldolase activity is enhanced by

C) increasing the [a] copy number of a gene coding for 2-keto-3-deoxy-6-phosphogluconate aldolase as compared to a wild-type bacterium, or

D) replacing the native promoter of said gene with a stronger promoter so that expression of the gene is enhanced in said bacterium as compared to a wild-type bacterium.

Claim 5 (Currently Amended) A methanol-utilizing bacterium having the Entner-Doudoroff pathway, whereby said bacterium is modified so that 6-phosphogluconate dehydratase activity and/or 2-keto-3-deoxy-d-phosphogluconate aldolase activity are/is enhanced, and has the [an] ability to produce an L-amino acid via a biosynthetic pathway which utilizes pyruvic acid as an intermediate.

Claim 6 (Currently Amended) A method for producing an L-amino acid which is a product of a biosynthetic pathway which utilizes pyruvic acid as an intermediate comprising:

- a) culturing a methanol-utilizing bacterium having the Entner-Doudoroff pathway in a medium, wherein said bacterium has the ability to secrete [an] said L-amino acid into a medium,
- b) collecting said L-amino acid from the medium,

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wherein said bacterium is modified to enhance 6-phosphogluconate dehydratase activity and/or 2-keto-3-deoxy-6-phosphogluconate aldolase activity, as compared to a wild-type bacterium,

wherein said 6-phosphogluconate dehydratase activity is enhanced by

A) increasing the [a] copy number of a gene coding for 6-phosphogluconate dehydratase as compared to a wild-type bacterium, or

B) replacing the native promoter of said gene with a stronger promoter so that expression of the gene is enhanced in said bacterium as compared to a wild-type bacterium, and

wherein said 2-keto-3-deoxy-6-phosphogluconate aldolase activity is enhanced by

C) increasing the [a] copy number of a gene coding for 2-keto-3-deoxy-6-phosphogluconate aldolase as compared to a wild-type bacterium, or

D) replacing the native promoter of said gene with a stronger promoter so that expression of the gene is enhanced in said bacterium as compared to a wild-type bacterium.

EXAMINER'S COMMENTS

Withdrawn- Claim Rejections - 35 USC § 112

5. Previous rejections to claims under 35 U.S.C. 112 first and second paragraphs are withdrawn by virtue of submission of an amendment.

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6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hope A. Robinson whose telephone number is 571-272-0957. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy, can be reached at (571) 272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hope Robinson, MS *HR*

Primary Examiner *2/26/07*

HOPE ROBINSON
PRIMARY EXAMINER